Natural Capital

Environmental leadership

As one of India's leading companies with a comprehensive low-carbon products portfolio, JSW Cement is dedicated to reducing its environmental impact through strategic sustainability efforts. Our holistic approach encompasses optimising resources, embedding circularity, cutting carbon emissions, managing air emissions and promoting water conservation across all our operations. To reinforce our commitment towards decarbonisation we have got our near-term CO_2 reduction targets validated by Science Based Targets Initiative (SBTi) in FY 2024-25. Our ongoing investments in cutting-edge production methods and alternative concrete solutions positions us as a leader in environmental innovation within the cement industry.

STRATEGIES LINKED

S1 S2 S4

RISKS

R1 R3 R4 R5 R6

SDGs

MATERIAL TOPICS

- Raw material conservation
- Climate strategy
- Circular economy
- Air emissions
- Energy costs, efficiency and sourcing

FOCUS AREA	KPIs	
Climate and Energy	**230 KG/T** Net CO_2 emissions intensity (Scope 1)	
	1,20,000 TONNES CO_2 emissions avoided due to use of AFR (Alternative Fuel and Raw Materials) at Nandyal and Shiva	
Circular Economy	**8.8 MMT** Waste-derived resources used	**16.5%** Thermal Substitution Rate
Biodiversity Management	**~38,000** plantation done	**2 SITES** with Wildlife conservation plan
Water Management	**4.2 LAKHS M^3** Harvested rainwater consumed	**45 LITRE/T** Freshwater consumption

ENSURING ENVIRONMENTAL COMPLIANCE AND AWARENESS

Ensuring environmental compliance is essential for the smooth operation of our plants. We maintain strict adherence to air quality standards, water management protocols, and waste disposal regulations at both local and national levels, supported by continuous monitoring systems to ensure consistent compliance. Despite these high standards, we had one instance of non-compliance charges pertaining to the groundwater extraction. We have taken immediate corrective measures to address the same and enhanced monitoring protocols to prevent any further occurrences.

Our environmental policy is applicable to all employees, suppliers, service providers, business partners (including non-managed operations, joint venture partners, licensees, outsourcing partners, and contractors), and is integrated throughout our entire supply chain. We also carry out a thorough due diligence process before executing any mergers or acquisitions. All our plants are ISO certified.

We conducted various training programmes throughout the year, on different subject including energy conservation, water management, climate change, waste management and, nature and biodiversity.

We undertake regular audits (internal and external) for water, energy to identify the potential opportunities for improvement. All plants are ISO certified and have implemented Integrated Management System (IMS) which combines multiple management system standards, like those for quality (ISO 9001), environmental (ISO 14001), and occupational health and safety (ISO 45001).

CLIMATE CHANGE AND ENERGY MANAGEMENT

PARTNERING FOR NET-ZERO CONCRETE

In line with the GCCA 2050 Roadmap to net-zero concrete, developed in 2023, we are committed to achieving Net-Zero Concrete by 2050. Further to this, in March 2025, we led the development of GCCA India's Roadmap, targeting Net-Zero emissions for the Indian cement industry by 2070, with an interim goal of Viksit Bharat by 2047.

FY 2024-25 has been a significant year, as we have achieved another milestone with the validation of our near-term CO_2 reduction targets by the SBTi. As per validated targets, we aim to reduce Scope 1 and Scope 2 GHG emissions intensity by 32.9% by FY 2034-35 from a FY 2023-24 base year of 274 kg/T. With 2.5% reduction target in gross emissions intensity of Scope 1+2, in our first year (FY 2024-25) of SBTi targets, we have achieved 2.3% reduction in FY 2024-25 vs FY 2023-24.

In order to achieve the net-zero goal, we employ strategies such as clinker substitution, the use of alternative fuels and raw materials, and the incorporation of clean energy sources.

Our grinding plants leverage advanced technologies focussed on energy efficiency, ensuring the production of high-quality blended cement products with exceptional properties.

Additionally, we have made significant R&D investments to develop new low-carbon products while optimising our operations to reduce energy and resource consumption.

EMISSIONS MANAGEMENT

Our GHG emissions primarily arise from cement production and transportation. Our foremost objective is to manufacture products with a low carbon footprint, leading the sector's decarbonisation journey. Being a GCCA member, we follow the GCCA CO_2 and Energy protocol for inventorying our direct emissions. Our Scope 1 net CO_2 emission intensity is around 40% of the global average and ~43% of the national average. In FY 2024-25, our Scope 1 net emission intensity reduced from 241 kg/T to 230 kg/T of cementitious material, mainly due to an increase of TSR. Additionally, our Scope 2 emission intensity decreased gradually from 29 kg/T to 28 kg/T owing to enhanced green power portfolio.

Our CO_2 emissions profile and performance are given on page 397-398.

DECARBONISATION LEVERS

CLINKER SUBSTITUTION

We continue to use industrial waste, including blast furnace slag/fly ash, as effective substitutes for clinker in the production of cement or cementitious products. Currently, ~79% of our revenue is coming from low carbon/sustainable products. Blending clinker with supplementary materials such as blast-furnace slag further helps reduces our carbon emissions.

~80%
Slag-based products

~64.4%
Raw material sourced from by-products and waste materials

USING ALTERNATE FUEL

We are advancing our decarbonisation strategy by targeting an increased thermal substitution rate (TSR) of 30% and 60% green power by the year 2030, driven by investments in solar power and other renewable energy sources.

To further reduce fossil fuel reliance, our clinker plants in Nandyal, Shiva, and Fujairah are actively co-processing industrial waste as alternative fuel. We used approximately 1,20,000 tonnes (T) of waste in Nandyal and around 37,000 T in Shiva. For FY 2024-25, the average TSR for JSW Cement was 16.5%.

30%
Target TSR by 2030

ENERGY MANAGEMENT AND EFFICIENCY

We primarily source our power from the grid and third parties and supplement it with our captive power plant in Salboni. Additionally, we are expanding our utilisation of solar power and waste heat recovery initiatives across our plants.

6,09,242 MWh
Total electricity consumption

9,689 TJ
Total thermal energy consumption at kiln

740 kcal/kg
Of clinker-specific Thermal Energy

34 kWh/t
Specific Power consumption

30,605 MWh
Solar power consumption at the Nandyal unit

5,717 MWh
Solar power consumption at the Salboni unit

17,315 MWh
Solar power consumption at Vijayanagar

We improve our thermal substitution rate (TSR) from 6.9% to 16.5% in FY 2024-25, by increasing the consumption of alternate fuels such as industrial waste, non recyclable plastic waste (NRPW)/RDF waste, and biomass waste. At our upgraded Shiva plant, in the very first year, we achieved a TSR of 13.5%. We utilise various industrial waste materials, including pharmaceutical hazardous waste, plastic waste, carbon black, and biomass waste. Our detailed energy performance data and trends are given on page 397-398.

PILOT PROJECT UNDER OPTOCE

'The Norwegian-funded OPTOCE project (https://optoce.no/) demonstrates how cement kilns across Asia can safely co-process non-recyclable plastic waste (NRPW), reducing ocean pollution, coal use, and emissions. Among 20 pilots in eight countries, the JSW Nandyal demonstration in India successfully co-processed multi-layered plastics and combustible waste (SCF), achieving a 12–15% thermal substitution rate. This approach maintains emissions within strict regulatory limits and highlights the cement industry's potential to significantly cut marine litter, reduce landfilling, and support India's circular economy transition.'

ENHANCING CLEAN ENERGY PORTFOLIO

We remain firmly committed to increasing our reliance on clean and green energy sources by utilising electricity generated through WHRS and renewable energy procured through Power Purchase Agreements (PPAs). In the current year, we sourced approximately 22% of our power from clean and green energy. Our solar energy capacity, managed by JSW Energy, currently stands at 26.5 MW and is complemented by a WHRS capacity of 13 MW. Together, these contribute to a total non-fossil energy capacity of nearly 48.5 MW, with plans underway to further scale this capacity in the near future.

Share of Clean energy (%)

PARAMETER	FY 2022-23	FY 2023-24	FY 2024-25
Share of Clean energy	3.9	15	21.5

INITIATIVES TO IMPROVE ENERGY EFFICIENCY

Nandyal

- Operating Slag mill without HAG
- Installing VFD for RM 55KW bag filter Fans (2 nos.)
- Adding Return Hot Air duct to Cooler fan no. 8
- Cooler Bag House RAL sequence stop

Salboni

- Logic implemented in coal mill circuit for reduction of idle running
- Coal Mill grit cone modification for reduction of pressure drop
- Heat saved applying LRB insulation in V -separator of RP2, RP3, RP4
- Logic implemented for reduction of idle running in Fly ash conveying circuit
- Compressor SPC reduction from to by leakage arresting and logic implementation
- Oil consumption reduction in OPC & GGBS by optimising HAG operation and false air reduction
- Admn. building AC ON & OFF control through GSM module to avoid idle running and running on holidays
- Plant lighting control through PLC & Switch control provided for 5nos cement silos inside lighting
- Commissioning of high efficiency (IE3) motor in-place of Low efficiency (IE2) motor for Coal mill main motor
- Commissioning of high efficiency (IE3) motor in-place of Low efficiency (IE2) motor for Coal mill main fan motor
- Bachelor guest house Chiller stopped and 1.5T, 5-star rating Split AC fixing for each room (24 rooms)
- Replacement of Old 75 Watt Fan with 35 Watt BLDC Fans - 15 Units
- Installation of Zero loss type Auto Drain Valve in Coal Mill & U-2 Zero meter air receiver

Dolvi

- Packing plant Bag filter fan Motor Replaced DOL Feeder with VFD
- Optimisation of Compressor Operations
- Optimisation of initilal ignition fuel (PPF)
- Replacement of Ductable AC units with VFV / VRF Units in Admin & CCR Buildings

Vijayanagar

- RP chiller Cooling Tower fills replaced
- VRM-2 Intermediate silo feeding air slide 5 nos. standby blowers stopped by providing selection and logic modification
- VRM2 cooling tower lifted from +0 mtr to +5 mtr height
- RP hot water return line re-routing done
- Mill hot water return line connected directly to cooling tower
- Screw compressor replacement for bulker upload

Jajpur

- RP OPC SPC reduction (0.73%) by Process Optimisation
- RP PPC thermal energy reduction (11.80%) by Process Optimisation
- RP OPC thermal energy reduction (10.98%) by Process Optimisation
- Clinker consumption reduction (4.15%) in PSC by adding additives
- Clinker consumption reduction (7.02%) in CHD by adding additives
- IE3 motor installation for RP cooling fan motor (11 KW)
- Logic implemented for reducing of idle running of RP2 reject circuit from December 2024
- Installation of VFD and removal of inlet fan damper in packer main bag filter (2 nos.)

Shiva

- PH False air reduced from 10% to 9%
- Raw Mill False Air reduced from 20% to 15%
- Reduction in electrical consumption through false air reduction in Coal Mill from 15% to 12%
- Saving in Coal Mill Auxiliary through reduction in idle running by 2%
- Saving in Raw Mill Auxiliary through reduction in idle running by 5%
- Through running bag filters in dP mode
- Lowering of Coal Mill separator Chute inside mill near table

4,962 T

CO_2 saved through energy conservation projects

4.8 million units

Electrical energy savings across all six plants

SHIFTING TOWARDS GREEN SOURCES

We currently procure solar power to meet a portion of the energy needs at our Nandyal, Vijayanagar, and Salboni plants, and plan to expand this portfolio across all our facilities. In FY 2024-25, we have secured solar power from 15.5 MW solar plants at Nandyal, 8 MW at Vijayanagar and 3.5 MW at Salboni making it to ~9% of total power requirement. These initiatives are helping us reduce our carbon footprint and accelerate our decarbonisation efforts.

With our Waste Heat Recovery System (WHRS) at Shiva and Nandyal, we are further advancing our clean & green Energy portfolio. In FY 2024-25, we have met ~22% of our power needs through clean and green energy sources.

~13%

Power sourced through WHRS in FY 2024-25

9%

Power sourced through solar in FY 2024-25

COLLABORATIONS FOR A CHANGE

Collaborations and partnerships play a crucial role in accelerating the adoption of new and innovative technologies. We believe that bringing together diverse expertise, resources, and perspectives helps accelerate our sustainability goals. Thus, we have collaborated and partnered with various non-political organisations and forums.

- GCCA Global and GCCA India: We are aligned with the GCCA 2050 Cement and Concrete Industry Roadmap for Net-Zero Concrete, supporting the Paris Agreement's goal of limiting global warming to 1.5°C of pre-industrial levels. As a participant in the 'Innovandi' programme, we actively engage with start-ups through the GCCA Innovation Challenge
- Climate Group Initiatives – RE100, EV100, and EP100: We are proud members of all three campaigns, advocating for renewable energy, electric mobility, and energy efficiency. We have already met our target under EP100. For FY 2024-25, we were a member of the RE100 and EV100 initiatives
- Xynteo 'Build Ahead' Coalition: As a member of this business-led initiative by Xynteo, we support India's 2070 net-zero target by promoting the use of low-carbon building materials across the construction value chain
- Industry Associations: We are active members of the Cement Manufacturers Association (CMA), working to shape a balanced policy and regulatory environment. Additionally, we are signatories to CII's Climate Charter and contribute to CII's Climate Council and Development Council for the Cement Industry
- Science-Based Targets initiative (SBTi): We are committed to science-based climate action and our near term targets got validated in FY 2024-25
- Biodiversity and Nature Initiatives: We are members of the CII's Indian Business and Biodiversity Initiative and International Union for Conservation of Nature (IUCN)'s Leaders for Nature Programme, reflecting our commitment to environmental stewardship
- UN and Industry Partnerships: We are signatories to the UN Energy Compact and the Global Decarbonisation Framework Principles and serve as part of UNIDO's IDDI advisory group, as well as UNGC
- We are also a member of FICCI RECEIC forum, ICCE, FCC, LeadIT, etc.

In FY 2024-25, we have paid total membership fees of ₹ 1.5 crore towards these collaborative initiatives and platforms. Our top five membership fees include GCCA Global and GCCA India (~₹ 60 lakh), CMA (~₹ 40 lakh), Climate Group (₹ 12 lakh) and Xynteo's Build Ahead Initiative (~₹ 12.5 lakh).

OTHER EMISSIONS MANAGEMENT

We are committed to protecting air quality by the proactive management of emissions from our manufacturing operations, including dust, nitrogen oxides (NOx), and sulphur oxides (SOx). Dust emissions primarily originate from cement production stacks and associated processes, while NOx and SOx result from the combustion of fuels and raw materials. We use Continuous Emission Monitoring Systems (CEMS) and conduct ambient air quality assessments to ensure compliance with environmental regulations. We do not emit ozone-depleting substances (ODS) in our processes, and our auxiliary emissions remain negligible. We monitor Dust, NOx and SOx primarily in our kilns, trends of which are reported in our performance table on page 399. Additionally in FY 2024-25, we have also started reporting of these emissions in our non-kiln (grinding) operations as well. Thus, our total emissions (kiln+non-kiln) for Dust, SOx and NOx are 347 T, 572 T and 1,481 T respectively.

CIRCULAR ECONOMY AND RAW MATERIAL CONSUMPTION

RAW MATERIAL CONSUMPTION

Cement production relies on controlled chemical reactions of limestone, sand, iron ore, and other materials. To minimise our environmental impact, we prioritise:

- **Waste as Resource:** Utilising waste materials from other industries.
- **Alternative Materials:** Increasing the use of alternate raw materials.
- **Circular Economy:** Reducing reliance on conventional raw materials.

These efforts contribute to a lower-carbon, more sustainable future.

Alternative Raw Material Consumption (MT)

PARAMETER	FY 2022-23	FY 2023-24	FY 2024-25
Alternative Raw Material Consumption	7.3	8.9	8.8

CONTRIBUTING TO CIRCULAR ECONOMY

We embrace the circular economy approach, which focusses on minimising waste, conserving natural resources, and reducing our environmental impact. Our manufacturing processes are specifically designed to utilise industrial by-products and contribute to the reduction of CO_2 emissions. By incorporating materials such as slag, we reduce the clinker factor in our cement, significantly lowering the carbon intensity. From the outset, our vision has been rooted in repurposing steel industry waste to produce environmentally friendly, slag-based cement — a sustainable alternative that aligns with our commitment to responsible manufacturing.

USING INDUSTRIAL WASTE TO PRODUCE BLENDED CEMENT

As 80% of our product portfolio comprises GGBS, PSC and composite cement, we use 64% alternative raw material, which is primarily slag. Other alternate raw materials include flue dust, spent pot liner, red mud etc.

36%

Natural raw material

13.65 MMT

Of total raw material consumed during FY 2024-25

8.8 MMT

Of alternative materials consumed during FY 2024-25

ALTERNATE FUEL FROM WASTE

We also replace coal by utilising a combination of industrial waste, including hazardous waste and waste materials like plastic waste, in our kilns. This approach helps reduce emissions, foster circular economy principles, and divert waste from landfills.

COLLABORATIONS AND INNOVATION

We collaborate with academic and research institutions to pioneer and advance innovative and sustainable technologies such as geopolymer concrete, 3D concrete printing, and biodegradable polymers for eco-friendly packaging. We are also exploring alternative raw materials, including calcined clay, further reinforcing our commitment to sustainable manufacturing. To support these efforts, we have invested approximately ₹ 6.6 crore towards environmental protection initiatives, encompassing both capital and operational expenditures. Of this, approximately ₹ 0.5 crore was allocated specifically to water conservation and management measures.

WASTE MANAGEMENT

Waste Generation and Management

The cement manufacturing process does not generate process-related waste. Most of the waste arises from ancillary and housekeeping activities, including iron scrap, plastic waste, and e-waste. Hazardous wastes, such as used oil and grease, are handled responsibly — either reused internally or sold to authorised recyclers, in full compliance with applicable regulations. We prioritise waste minimisation at the source and ensure all disposal practices meet environmental standards. Although our product packaging uses plastic that cannot be reclaimed directly, we co-processed approximately seven times that amount of plastic waste sourced from other industries. As a result, over 99% of the waste generated at our facilities is diverted from landfilling and conventional disposal.

Recycling and Repurposing

We actively recycle and repurpose industrial waste from various sectors to reduce our dependence on natural resources and lower greenhouse gas emissions per tonne of cement produced. Throughout the year, no significant spills were reported, and all wastewater generated was effectively contained within our premises, with no discharge into external water bodies.

Plastic Packaging and Extended Producer Responsibility (EPR)

In compliance with the Plastic Waste Management (Amendment) Rules, 2022, we are registered both as a Plastic Waste Processor (PWP) and a Brand Owner (BO) under the Extended Producer Responsibility (EPR) framework. At our Nandyal unit and Shiva, we co-processed approximately 1,57,000 tonnes of Refuse-Derived Fuel (RDF) or plastic waste, supporting our target of becoming 10 times plastic negative by 2030. We are already 6 times plastic negative.

Detailed data on our waste generation and management practices can be found on page 399.

10x

Plastic negative by 2030

SMART WASTE MANAGEMENT TECHNOLOGIES

Sustainable Technology: Our plants utilise cutting-edge German dry process technology to eliminate water usage, ensuring environmental sustainability. Fully automated plants with centralised control desks minimise air pollutants through dust-free production operations and use water systems to maintain air quality standards.

Water Management: Our manufacturing process generates no liquid waste, and efficient water circulation through cooling water towers ensures virtually zero water pollution. Domestic wastewater is treated in sewage treatment plants (STPs), with treated water reused for dust suppression and nurturing green belts.

Solutions for Various Sectors: We provide innovative waste management solutions for sectors such as steel, alumina, pharmaceutical, municipal waste, pulp and paper industry, textile industry, and more.

WATER MANAGEMENT

While cement manufacturing is not inherently water-intensive, we recognise that water is a critical and increasingly scarce resource. Water scarcity poses a growing risk to several of our operations in the medium to long term and has potential implications across our value chain, given that water is essential for the use of our products. As a result, reducing the specific freshwater intensity of our products is a key focus within our broader sustainability framework and our CO-CREATE strategy, where it is embedded under the pillar of Ecosystem Restoration.

Our Commitment

Water sustainability has long been a priority for us. We are committed to becoming water positive and have set a target to reduce our freshwater withdrawal intensity by 15% and achieve a 5x water-positive status by 2030, relative to our 2021 baseline. While we have reduced the freshwater intensity, we are putting efforts to achieve our water positive target through a combination of increased utilisation of recycled and harvested water, and the implementation of robust water stewardship programmes across our operations.

5x

Water positive by 2030

24%

Reduction in freshwater intensity in FY 2024-25 vs FY 2023-24

ACTION PLAN

JSW Cement is committed to sustainable water management, aiming to alleviate water scarcity and promote water reuse and recycling techniques. We source water responsibly, embrace recycling and reuse practices, and ensure proper treatment and disposal of wastewater. Our operational units follow Zero Liquid Discharge (ZLD) principles, treating domestic wastewater through Sewage Treatment Plants (STPs) for subsequent reuse.

Water risk assessment: We undertook initial water risk assessments across our sites using tools like the India Water Tool (IWT) and local guidelines. None of our owned sites are in water-stressed regions as defined by Central Ground Water Authority guidelines. However, the IWT assessment indicated that three sites — Nandyal, Salboni, and Vijayanagar — may fall under medium to high risk. We have conducted detailed assessments and water audits for Nandyal, Shiva and Vijayanagar plants and are currently working on action plans. Additionally, we actively communicate with local communities to ensure water security and proactively mitigate potential future risks through various CSR initiatives.

Water Consumption and Recycling: In FY 2024-25, our water withdrawal had no significant impact on local water bodies. Out of our six manufacturing sites in India, three — Dolvi, Vijayanagar, and Jajpur — have access to surface water supply, while the two others — Shiva, and Salboni — depend on groundwater. While our Nandyal plant primarily uses harvested rainwater, Salem plant (currently owned by JSW Steel) uses surface water as primary source.

In FY 2024-25, we recycled 63,157 m^3 of wastewater. We are committed to achieving a water-positive status by 2030. To this end, we aim to reduce our freshwater withdrawal intensity by 15% and become 5x water-positive by 2030 through increased use of recycled and harvested water and implementing water stewardship programs. At few plants, we are working on specific CSR water interventions within our communities as well.

Nandyal Plant: We partnered with NABARD for a watershed project, successfully completing a pilot phase with 100 ha, and have since initiated full-scale implementation. NABARD has approved the three-year support plan for JSW to establish a common facility centre. Through this initiative, 50 borewells were recharged, resulting in increased groundwater levels.

Jajpur Plant: We provided water supply facilities in DIZ villages such as Mangalpur and Chandia panchayats.This drinking water project benefited 120 households.

Shiva Plant: We provided water through tubewells in eight villages and installed five solar-based water supply systems. The "Jal Chhatra" initiative has benefited 30,000 villagers.

Our Wastewater Management Policy addresses water scarcity in the locations where we operate by implementing various strategies to reduce our dependence on freshwater:

Our efforts to manage water effectively as a shared resource involve a comprehensive assessment of both dependency-related and impact-related water risks across our operations, supply chain, and product use phase. This includes evaluating future water availability and quality to ensure long-term operational sustainability. We proactively assess potential impacts on local stakeholders, addressing both the current and future water needs of the communities in which we operate. Additionally, we closely monitor and anticipate future regulatory changes at the local level to ensure compliance and mitigate potential risks. Through these efforts, we aim to safeguard our water resources while fostering sustainable growth and responsible water stewardship.

WATER FOOTPRINT

972.4 Megalitre
Total water consumption

44.5 litres
Fresh water consumption per tonne of cementitious material

81.5 litres
Water consumption per tonne of cementitious material

Zero
Effluent discharge from our plants

425 Megalitre
of harvested water was used

63.1 Megalitre
Of water recycled, which was primarily consumed for green belt development and dust control

5x
Water positive by 2030

15%
Reduction in freshwater intensity by 2030 (vs 2020)

RESPONSIBLE MINING AND BIODIVERSITY MANAGEMENT

At JSW Cement, we are deeply committed to minimising the impact of resource extraction on biodiversity. Our operations are carried out with a strong focus on environmental preservation. In addition to enhancing biodiversity, we undertake progressive mine rehabilitation in alignment with approved mining plans.

CONTROLLED BLASTING

We manage our mining operations responsibly through the use of non-electrical, shock tube-controlled blasting techniques, combined with Minimate Blasters to ensure precise monitoring of each blast. A staged waste-dumping strategy is employed to optimise the use of disposal areas, and our crushers operate at their maximum designed capacity to improve efficiency and reduce energy consumption. Furthermore, our drill-and-blast procedure ensures that the optimal charge per hole is determined based on the hardness of the stratum, thereby minimising environmental disruption.

REPURPOSING UNUSED MINES AS RESERVOIRS

We use our mine pits as water reservoirs to enhance water availability for local communities. By utilising sump water from both active and dormant mine pits, we supply nearby areas with a reliable water source. These reclaimed pits serve a dual purpose — supporting both agricultural cultivation and afforestation efforts. Natural groundwater inflow and seepage supplemented by rainwater harvesting from surrounding areas helps replenish the sumps, ensuring a consistent year-round water supply.

ADDRESSING EMERGING RISKS AND REGULATORY CHALLENGES

While cement operations undoubtedly impact the environment, we are increasingly recognising biodiversity and ecosystem loss as serious emerging risks. With growing environmental awareness and the likelihood of stricter regulations governing the cement industry's environmental impact, we are proactively identifying risks through comprehensive assessments. We are also implementing measures to reduce negative impacts and actively contribute to biodiversity conservation.

PRESERVING BIODIVERSITY

At JSW Cement, we recognise the critical importance of biodiversity and ecosystem services for the long-term sustainability of our operations. We are dedicated to protecting, restoring, and promoting biodiversity across the ecosystems surrounding our sites. Our efforts include afforestation initiatives, planting native species, maintaining green belts, and adhering to approved mining and rehabilitation plans. Furthermore, we avoid conducting operations near sites that are home to globally or nationally significant biodiversity, or any World Heritage Sites.

In cases where tree felling is necessary for new projects and sites, we ensure compensatory afforestation measures are in place to achieve no net deforestation. Additionally, timely restorative actions are taken to minimise the impact on regional biodiversity in full compliance with all regulatory requirements.

BIODIVERSITY MANAGEMENT AND CONSERVATION COMMITMENT

Guided by our comprehensive Biodiversity Policy, JSW Cement is committed to conserving and enhancing biodiversity around our plants and quarries. We aim to achieve a No Net Loss of Biodiversity by 2030. For new projects that require tree felling, compensatory afforestation is conducted to ensure that our operations do not contribute to deforestation. While our active mines in Nandyal not near protected areas, we have implemented wildlife conservation plans due to the presence of schedule 1 species in the buffer zone. Similarly, our Vijayanagar grinding unit, located near the Daroji Bear Sanctuary, follows a dedicated wildlife conservation plan to protect the local ecosystem. All our biodiversity targets, processes and initiatives get reviewed at Board level through Sustainability Board Committee.

BIODIVERSITY RISK ASSESSMENT

We mapped all our operations located within a 10-kilometre radius of protected areas, migratory routes, and Ramsar Wetland sites using advanced tools and technologies. This exercise allowed us to better understand the surrounding ecosystems, identify site-specific risks, assess ecosystem services, and evaluate the effectiveness of current management plans. In alignment with the JSW Biodiversity Technical Standard, we identified key impacts and dependencies associated with each site. Based on our risk and opportunity assessment, we developed a scoring matrix to prioritise high-impact locations and strengthen our focus on ecological preservation. This was also done with reference to Global Biodiversity Framework and Taskforce on Nature-related Financial Disclosures (TNFD). We have also integrated biodiversity risks into our Enterprise Risk Management process.

Phase I (Desktop Assessment):

We conducted a comprehensive gap assessment using datasets provided by each site, including Environmental Impact Assessment (EIA) reports, site-specific biodiversity studies, and secondary data sources. Besides own sites, a high level dependency and impact assessments were carried out for our upstream and downstream activities. This desk assessment covered all seven operational sites, encompassing a total area of 422.85 Ha. Among all sites, Nandyal and Vijayanagar (covering a total area of 323.75 Ha) were identified as high-biodiversity sensitive locations. Both sites have existing Wildlife Conservation Plans as per the regulatory requirements. To further strengthen our efforts, we voluntarily undertook a Phase II assessment, i.e., onsite assessment, at Nandyal and developed a comprehensive Biodiversity Management Plan.

Phase II (On-site Assessment):

We have conducted an on-site biodiversity risk assessment at our Nandyal site, where a Wildlife Conservation Plan is already in place as part of compliance requirements. The purpose of this study was to assess and document the biodiversity around the plant, including flora and fauna, habitats, terrestrial ecosystems, vegetation distribution, and aquatic ecosystems, in order to plan for its conservation and development. To mitigate the identified risks, and progress towards achieving our target of No Net Loss (NLL), we have prioritised risks based on applicable standards and the Natural Capital Action Plan provided by the CII team. This will enable us to create focussed, action-oriented, and efficient plans to prevent and mitigate these risks. We have already begun implementing some of the recommended actions at Nandyal. For the Vijayanagar plant, since it is co-located with JSW Steel and JSW Energy, a comprehensive Biodiversity Dependency-Impact Assessment for NNL (No Net Loss on Biodiversity) study was conducted at group level.

BIODIVERSITY MANAGEMENT AT JSW CEMENT: A MITIGATION HIERARCHY APPROACH

At JSW Cement, we are committed to protecting and enhancing biodiversity across all our operations. We follow a structured mitigation hierarchy — Reduce/Minimise, Rehabilitate/Restore, and Offset — to address the ecological impacts of resource extraction and industrial activity. Avoidance is the first mitigation action which we adopt.

REDUCE / MINIMISE

Our Approach: We recognise the ecological sensitivities associated with mining and resource extraction. To minimise biodiversity impact, we employ responsible mining practices that include controlled blasting techniques. Our operations use a non-electrical shock tube-controlled blasting system, supported by Minimate Blasters to precisely monitor each blast. This ensures that environmental disturbance is kept to a minimum.

Additionally, we follow a carefully planned drill-and-blast methodology that determines the optimal charge per hole based on stratum hardness. Staged waste dumping is also implemented to optimise land use and reduce the ecological footprint of disposal areas.

REHABILITATE / RESTORE

Our Approach: We implement progressive mine rehabilitation plans in accordance with regulatory requirements and industry best practices. As part of our ongoing commitment to ecosystem restoration, we conduct annual plantation drives using native species and maintain a mandated green belt around our sites.

Beyond regulatory compliance, we creatively repurpose dormant mine pits as water reservoirs to benefit the local communities. These pits are naturally replenished through rainwater harvesting, ensuring year-round water availability. The water supports both agriculture and afforestation efforts, converting formerly mined areas into productive, green landscapes.

OFFSET

Our Approach: Where direct mitigation is not possible, we undertake offset initiatives to restore biodiversity. At selected locations, we have adopted the Miyawaki afforestation method to develop compact, layered forests. This technique replicates the natural forest structure, comprising shrubs, undergrowth, and canopy trees, on small land parcels. At Nandyal, we are creating a butterfly garden to increase local flora and fauna.

Besides above, we also explore regenerative measures, wherever possible, in order to improve existing ecosystem processes.

PARTNERING FOR CONSERVATION EFFORTS

We are proud to be a part of the Indian Business and Biodiversity Initiative (IBBI), launched by the Confederation of Indian Industry (CII) in collaboration with the Indian Ministry of Environment, Forest and Climate Change. In addition, we have committed to the IUCN's Leaders for Nature programme. In FY 2024-25, we also partnered with World Economic Forum – 1t.org and with 'Nature of Business' at group level. These partnerships empower businesses to drive innovation, develop new business models, and implement solutions that integrate natural capital into their value creation processes. By adopting this collaborative approach, we aim to benefit not only our business but also biodiversity and society as a whole.

Owing to our efforts for biodiversity, Nandyal plant has been conferred the prestigious CII-ITC Sustainability Award 2024 for Excellence in Biodiversity , marking company's commitment to environmental stewardship and progress made on biodiversity management

2.8 lakh

Plantations set up across our locations till date

~38,000

Plantation done

2

sites with Biodiversity Management Plan/Wildlife Conservation Plan

Governance and awards